

## A- Issues Report

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## Issues Report

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### Previous Work

There have been several previous studies in recent years that have related to transportation issues in Beaverton. These studies provide background into transportation needs and opportunities in the area, and will become important resources for conducting the current study. An annotated bibliography of a few key studies is provided below:

2000 Regional Transportation Plan, Metro, August 10, 2000 (Ordinance No. 00-869A and Resolution No. 00-2968B).

The Regional Transportation Plan (RTP) is a 20-year blueprint to ensure our ability to get from here to there as the Portland region grows. The RTP establishes transportation policies for all forms of travel - motor vehicle, transit, pedestrian, bicycle and freight - and lays out the priority projects for roads and freight movement as well as bicycling, walking and transit. The plan is based on forecasts of growth in population, households, and jobs as well as future travel patterns and analysis of travel conditions. It considers estimates of federal, state and local funding which will be available for transportation improvements. The plan also comes with cost estimates and funding strategies to meet these costs. The plan was first adopted by the Metro Council in 1983, and is updated periodically to reflect changing conditions and new planning priorities. Local transportation plans are required by state law to be consistent with the RTP.

The following table summarizes the key ways the Beaverton TSP must comply with the RTP:

<i>Issue</i>	<i>Existing TSP Complies</i>	<i>Update Needs to Address</i>
Local TSP Development (identify needs for 20 year planning period)	✓ Chapters 5-9	✓
System Level Planning (By Mode)	✓ Chapters 5-9	✓
Project Level Planning (By Mode)	✓ Chapters 5-9	✓
Transportation Systems Analysis for Local Plan Amendments (Consider options outlined in RTP 6.4.4 (1-7) before additions of capacity)	✓ Chapters 8, 10	✓

Design Standards for Street Connectivity (local street plan and standards)	✓ Chapter 8	✓
Alternative Mode Analysis	✓ Chapters 5-7, 9	✓
Motor Vehicle Congestion Analysis	✓ Chapter 8	✓
Identify Future RTP Refinements	✓ Chapter 9	✓
Transit Service Planning	✓ Chapter 7	✓
Project Development (considering alternatives such as TSM and Street Design concepts)	✓ Chapters 5-10	✓
Refinement Planning		(not included in this scope)
Specific Corridor Refinements (the only one in Beaverton Area is Sunset Highway)		✓ (acknowledge concern)
Specific Corridor Studies (three affect Beaverton directly—I-5 South, Highway 217 and Tualatin Valley Highway)		✓ (Acknowledge concern)
Area of Special Concern (Beaverton Regional Center)		✓

The RTP projects that shall be included in this TSP update are in the attached table.

The RTP designation of the Beaverton Regional Center as an Area of special Concern requires that the Beaverton TSP must adopt 1 of 2 approaches to address the RTP expectation that the motor vehicle level of service policies set forth will be exceeded. The first approach requires local TSPs that choose the alternative performance measure option to adopt the following performance measures and provide an analysis that demonstrates progress towards meeting these measures in the local TSP:

- a. Non-Single Occupant Vehicle (SOV) modal targets
- b. Parking ratios consistent with Title 2 of the Urban Growth Management Functional Plan (UGMFP)
- c. A street connectivity plan for the Area of Special Concern that meets the connectivity requirements set forth in the RTP
- d. A plan for mixed-use development

The second option requires local TSPs to adopt an Area of Special Concern action plan that:

- a. Anticipates the growth and subsequent impacts of motor vehicle traffic on multi-modal travel in these areas
- b. Establishes an action plan for mitigating the growth and subsequent impact of motor vehicle traffic
- c. Establishes performance standards for monitoring and implementing the action plan

The action plan shall consider land-use strategies, as well as transportation solutions for managing the effects of continued traffic growth.

## Oregon Highway 217 Corridor Study

This study was conducted as a preliminary analysis to provide a point of reference for operational issues in order to frame improvement elements associated with the widening of ORE 217. It was only a first step in better understanding the nature and character of improvements needed along the corridor. The following were some of the key findings of the study:

- Braided ramps are necessary to provide safe access to ORE 217 with future traffic volumes for all alternatives due to the short, inadequate interchange spacing
- Preliminary estimated cost for alternatives considered are between \$290 and \$490 million (year 2000 dollars)
- Frequency of access points on ORE 217 and short trips are less than optimal for premium service lane alternatives
  - Ramp meter bypass and/or exclusive drop-in ramps serving regional centers should be evaluated with premium service alternatives
  - “System-wide” connections of premium service alternatives with I-5 at the south and US 26 at the north will significantly improve time savings
- Environmental impacts to water quality and parkland resources, while significant, can be mitigated for alternatives within 150 feet or less right-of-way requirement
- The maximum footprint for any future improvement to ORE 217 can likely NOT exceed a total of six lanes plus auxiliary lanes
- Construction phasing of any alternative to insure minimum levels of service on ORE 217 is absolutely critical
- Given the limitations of the corridor, once a design alternative has been selected, a “building block” phased implementation and funding program should be implemented
- Evaluate paint/pylon and concrete barrier alternatives for enforcement of premium service lanes
- Evaluate operational effectiveness of sub-standard shoulder width

The TSP Update will consider the following design and functional considerations in developing any transportation solutions for this corridor (as outlined in the RTP):

- Expand highway to include a new lane in each direction from I-5 to US 26
- Address the competing needs of serving localized trips to the Washington Square and Beaverton regional centers and longer trips on Highway 217
- Consider express, HOV and peak period pricing when adding new capacity

- Design capacity improvements to maintain some mobility for regional trips during peak travel periods
- Design capacity improvements to preserve freight mobility during off-peak hours
- Retain auxiliary lanes where they currently exist
- Improve parallel routes to accommodate a greater share of the local trips using this corridor
- Improve light rail service with substantially improved headways (time between trains)
- Coordinate with planned commuter rail service from Wilsonville to Beaverton regional center

## US 26: Portland to Cannon Beach Study

The US 26 Corridor Plan is a guiding document for ODOT, including OTC adopted objectives and management directions. The corridor plan includes a series of objectives, strategies, and projects to enhance the ability to serve commuter, recreational, and freight travel. Consistent with OTP objectives to promote a balanced multi-modal transportation system, the corridor plan promotes TDM and TSM strategies as the first course in addressing future needs.

The corridor plan also addresses cost-efficiency by combining projects into multi-modal projects where possible. To the greatest extent possible, projects identified that improve transportation balance in the corridor are to be pursued through maintenance, operations, management, and service projects that minimize capital expense.

The corridor plan identifies that beyond TSM, TDM, and multi-modal system improvements, capacity will need to be added to US 26 to handle the forecasted future growth. The plan states that the urban portion of the corridor should increase the capacity of US 26 through the following programmed highway widening improvements:

- a. Construct the proposed addition of a third eastbound lane with noise walls on US 26 between ORE 217 and the Camelot Interchange, remove Wilshire on-ramps, and close local accesses
- b. Construct the proposed widening of US 26 to six lanes from ORE 217 to Murray Boulevard with a braided ramp west bound from ORE 217
- c. Construct the proposed highway project from the Camelot Interchange to the Sylvan interchange that includes reconstruction of the highway mainline, replacing the Canyon Road crossing and adding a third lane

The corridor plan also identifies the following projects to accommodate the additional capacity needed within the corridor's urban portion:

- a. Investigate development of dedicated HOV/HOT lanes on US 26 within the corridor's urban portion to accommodate a portion of increased auto and transit trips
- b. Investigate widening of US 26 to six lanes from Murray Boulevard to the Metro UGB (Shute Road)
- c. Construction of an eastbound on-ramp to US 26 at Cornelius Pass Road, eliminating left-turns across Cornelius Pass Road

Other capacity improvement strategies identified in the plan include:

- Use parallel routes to US 26, such as Evergreen Boulevard, Cornell Road, and West Union Road, to decrease reliance on US 26 for local trips, based upon their limits of capacity, function, policy, and operational roles.
- Investigate the feasibility of congestion pricing
- Mile-based and/or emission based registration fees withing the Metro UGB
- Implement congestion reduction strategies based on the following priorities:
  1. Demand reduction, such as TDM measures like carpooling or telecommuting
  2. System Management, such as optimizing programs or improvements to local street systems to reduce the demand for US 26 improvements
  3. Access management
  4. Improvements and new facilities to accommodate additional capacity

The Beaverton TSP update will include the identified US 26 capacity improvement plans. The TSP will also use the identified congestion reduction strategies to utilize all modes of travel and reduce peak trips.

## Sunset Highway Interchange/Corridor Study

The Sunset Highway Interchange Study was conducted in 1998 to identify existing deficiencies, determine future needs, develop alternatives, evaluate alternatives and select a preferred alternative for each of four interchanges along the Sunset Highway. The study included interchanges at Cornelius Pass Road, Shute/Helvetia, Jackson School Road and Glencoe Road. It was also determined that additional freeway mainline capacity would be needed east of Cornelius Pass Road.

In addition, the RTP has indicated that a corridor refinement study will be conducted (in conjunction with local jurisdictions) for the Sunset Highway. Improvements are needed in this corridor to preserve access to and from the central city and the Sunset Corridor employment area, and provide access to the Hillsboro regional center. The following design elements should be considered as improvements implemented in this corridor:

- Maintain off-peak freight mobility
- Phase in capacity improvements from the Sylvan interchange to 185<sup>th</sup> Avenue, expanding to a total of three general purpose lanes in each direction
- Improve light rail service, with substantially increased headways
- Construct major interchange improvements at Sylvan, Cedar Hills Boulevard and Cornelius Pass Road
- Identify and construct additional overcrossings in the vicinity of interchanges to improve connectivity and travel options for local traffic, thus improving interchange function
- Consider express, peak period pricing or HOV lanes when adding highway capacity, especially west of Highway 217

## Metro Tualatin Valley Highway Access Management Strategy

Metro has indicated in the RTP that a corridor study will be conducted (in conjunction with local jurisdictions) for Tualatin Valley Highway (TV Highway) to address existing deficiencies and serve increased travel demand between the Beaverton and Hillsboro regional centers. The following design considerations should be addressed as part of a corridor study.

- Manage access as part of a congestion management strategy.
- Implement TSM and other interim intersection improvements at various locations between Cedar Hills Boulevard and Brookwood Avenue
- The relative trade-offs of a variety of capacity and transit improvements, include:
  1. Improvements on parallel routes such as Farmington, Alexander, Baseline and Walker roads as an alternative to expanding TV Highway
  2. Seven-lane arterial improvements from Cedar Hills Boulevard or Murray Boulevard to Brookwood Avenue or Baseline Road in Hillsboro
  3. A limited access, divided facility from Cedar Hills Boulevard or Murray Boulevard to Brookwood Avenue, with three lanes in each direction and grade separation at major intersections
  4. Transit service that complements both the function of Tualatin Valley Highway and the existing light rail service in the corridor
- Evaluate the impacts of the principal arterial designation, and subsequent operation effects on travel within the Beaverton regional center

The update to the Beaverton TSP will acknowledge that this corridor is a problem, but specific improvements will be an outcome of a specific corridor study, not the TSP.

## Washington Square Regional Center Plan

A task force was used to develop this Regional Center Plan. The task force recommended a series of projects to improve access to the Regional Center by transit, bicycle, pedestrians and motorized vehicles into and throughout the district. The following improvements were identified:

- Development of a “transit access and Action Plan” in concert with Tri-Met
- Improvements to the regional roadway system—some key improvements identified were:
  - A bridge over Highway 217 connecting Nimbus Drive to the Mall area
  - Extending Nimbus Drive to Greenburg Road
  - A bridge over Highway 217 connecting Locust to Nimbus
  - A collector system at Oak-Lincoln-Locust
  - Widening Hall Boulevard to three lanes between Oleson Road and the southern study area boundary (while acquiring right-of-way for a five lane section)
  - Interchange capacity improvements at Highway 217
- Bike paths—ensuring easy, safe access to employment, housing and retail development as well as surrounding greenspace.
- Commuter Rail between Wilsonville and Beaverton
- People Mover that will travel throughout the district, linking jobs, housing, retail and services

A grant has been obtained to develop an implementation plan, however, there are still issues concerning funding, environmental and neighborhoods. A transportation management area (TMA) in the area may be an option. The Beaverton TSP Update will need to coordinate with ongoing efforts of this plan and will need to specifically address connections to

Nimbus north of Scholls Ferry Road, improvements to ORE 217 interchanges and commuter rail in Beaverton.

## Raleigh Hills Town Center Plan

This planning effort attempted to update (amend) the Raleigh Hills-Garden Home Community Plan. Several maps were developed, including a Transportation Circulation Designations Map, a Street Corridor, Arterial Access and Pedestrian System Designations Map, and a Functional Classification System Map. The key outcome of this study is a proposed reconfiguration of the Beaverton-Hillsdale Highway/Scholls Ferry Road/Oleson Road intersection. No other concepts were approved as a part of this project. The circulation elements can be incorporated in the TSP maps for functional classification in this update.

## Cedar Mill Town Center Plan Update(Washington County Ordinance No. 536)

This ordinance updates (amends) the Cedar Hills-Cedar Mill Community Plan and the Bethany Community Plan. The ordinance includes several maps, including a Land Use District Map, a Transportation Circulation Designations Map, a Street Corridor, Area of Special Concern, Arterial Access and Pedestrian System Designations Map, a Functional Classification System Map, and several descriptions of areas of special concern (as identified on the maps). The elements of these maps will be incorporated in the TSP update.

## Murray/Scholls Town Center Plan

A Town Center Master Plan was developed for the Murray/Scholls Town Center Area for a 20-year horizon. As part of the Master Plan, transportation analysis was conducted to determine improvements likely to become necessary with the development of the Town Center in the next 20 years. Improvements were grouped into three phases (Phase I: 0-5 years out, Phase II: 5-10 years out and Phase III: 10-20 years out). The total anticipated cost for all three phases of improvements was about \$13.5 million. Many of these projects will occur with adjacent development. Elements from the Town Center Plan were already included in the adopted TSP including the roadway network, bicycle and pedestrian circulation elements and local street connections.

## Beaverton Regional Center Parking and Street Design Study

This study, which has not yet been reviewed by the City, addresses parking supply and demand in the Beaverton Regional Center area (downtown Beaverton) as well as street design and connectivity in the same area. It was concluded that there are currently about 13,000 available parking spaces in the study area and that an additional 15,000-30,000 parking spaces will become necessary in downtown Beaverton in the next 20 years. The study also concludes that increasing development density will necessitate parking structures as opposed to the surface and on-street parking that is used today.

Two local street connections were proposed in conjunction with the study. The first would extend Rose Biggi Avenue south from Canyon Road to Broadway Street and the second would extend Henry Street south (as 120<sup>th</sup> Avenue—Henry Street veers 90 degrees west as Henry Street) to Canyon Road. In addition, the existing Short Street is proposed to be vacated. These will be studied for access standards and capacity needs to determine if they should be incorporated in the TSP update local street maps.

## Transportation Planning Rule, Oregon Administrative Rules (OAR) 660-12.

The adoption of the Transportation Planning Rule (TPR) in May 1991, (updated in November 1998) mandates comprehensive transportation planning for cities in Oregon. The TPR defines the specific requirements for a transportation system plan. The areas of analysis addressed in the TPR for a transportation system plan include the following:

- Roadway capacity and level of service
- Transit capacity and capacity utilization
- Bicycle and pedestrian system capacity
- Adjustment of turning movement volumes produced by travel demand forecasting models
- Estimation of future transportation needs (person travel), reflecting:
  - population and employment forecasts consistent with comprehensive plans
  - measures to reduce reliance on the automobile
  - increased residential, commercial and retail development densities
  - location of neighborhood shopping centers near residential areas
  - better balance between jobs and housing within sub-areas
  - maximum parking limits for office and institutional developments
  - appropriate levels of transportation facilities to serve land uses identified in transportation plans
  - increases in average automobile occupancy
  - increases in modal shares of non-automobile modes
  - TDM programs and rearranged land uses on the number and length of automobile trips per capita
  - land use and subdivision regulations to increase non-auto trip making
- Estimation of future goods movement needs
- Access management

These were incorporated into the adopted TSP and will be carried forward in the update.

## Oregon Transportation Plan, Oregon, 1992 (Updated in 1997 Annual Report).

The Oregon Transportation Plan (OTP) sets the general direction for transportation development statewide for the next twenty years. The purpose of the plan is to guide development of a safe, convenient and efficient transportation system that promotes economic prosperity and livability. The OTP contains two elements: Policy and Systems. The OTP provides overall direction for allocating resources and coordinating modes of transportation. It also reviews the relationship of transportation to land use, economic development, the environment, and energy use. Key aspects of the OTP focus on a transportation system that is balanced, efficient, accessible, environmentally responsible, has connectivity among places and modes and carriers, is safe and financially stable. The 1997 Update highlights many of the actions that have been taken to implement the Oregon Transportation Plan in 1997, monitoring its status.

## 1999 Oregon Highway Plan, Oregon Department of Transportation, May 1999.

The Oregon Highway Plan (OHP) is a specific element of the Oregon Transportation Plan. The plan has three main elements: the Vision, the Policy Element and the System Element. The Vision portion of the plan considers what Oregon's highway system should look like, considering an anticipated 1.2 million new residents over the next 20 years, as well as projections for economic, demographic and technology forecasts. The Policy Element contains policies and actions under goals for System Definition, System Management, Access Management, Travel Alternatives, and Environmental and Scenic

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Resources. The System Element begins with an analysis of 20-year state highway needs and lays out investment strategies to meet these needs. This element also lays out an implementation plan for the goals, policies and actions identified in the Policy Element.

Key areas the Beaverton TSP Update will need to comply with are listed in the following table:

<i>Issue</i>	<i>Existing TSP Complies</i>	<i>Update Needs to Address</i>
Access Spacing Standards (OHP Appendix C)		✓--(meet for highways and interchanges)
Highway Mobility Standards (OHP Tables 6 and 7)		✓--(meet table 7 requirements)
Meet Land Use and Transportation Policy Objectives (i.e. designate STA, Commercial Center, UBA's*)		✓--(designate STA, CC and UBA's)

\* STA=Special Transportation Area, UBA= Urban Business Area

These policies apply to the following highways in the Beaverton area (2040 Concept Areas include the Central City, Regional Centers, Town Centers, Station Communities, and Main Streets as identified in the 2000 Metro RTP):

Highway	Classification	V/C Standard				Access Spacing Standard*
		2040 Concept Area		Non-Concept Area		
		1 <sup>st</sup> hour	2 <sup>nd</sup> hour	1 <sup>st</sup> hour	2 <sup>nd</sup> hour	
US Route 26	Statewide Highway	0.99	0.99	0.99	0.99	1320 ft
ORE Route 217	Statewide Highway	0.99	0.99	0.99	0.99	1100-1320 ft
ORE Route 8 (Canyon Road – TV Highway)	Statewide Highway (west of ORE 217)	0.99-1.1**	0.99	0.99	0.99	175-990 ft
	District Highway (east of ORE 217)	1.1	0.99	0.99	0.99	175-770 ft

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ORE Route 10 (BH Highway – Farmington)	District Highway (County Line to ORE 217 and west of Murray)	1.0- 1.1***	0.99	0.99	0.99	175-500 ft
Scholls Ferry Road	District Highway (ORE 217 to Hall and west of 175 <sup>th</sup> )	1.0- 1.1***	0.99	0.99	0.99	175-500 ft
Hall Boulevard	District Highway (ORE 217 to 99W)	1.0- 1.1***	0.99	0.99	0.99	175-400 ft

\*Spacing Standards vary as per designations in Appendix C of the 1999 OHP

\*\*V/C standard varies between Beaverton Regional Center Area of Special Concern (1.0), Principle Arterial Route from Cedar Hills Blvd. to Brookwood Ave. (0.99), 2040 concept areas (1.1), and other 2040 corridor designation (0.99). The Area of Special Concern and Principal Arterial Route standards supercede the other two standards.

\*\*\*V/C standard in Beaverton Regional Area of Special Concern is 1.0. V/C standard for other 2040 concept areas is 1.1.

Oregon Bicycle and Pedestrian Plan, Oregon Department of Transportation, June 1995.

This plan serves the following purposes:

- To implement the actions recommended by the Oregon Transportation Plan
- To guide ODOT, MPO's, the cities and counties of Oregon and other agencies in developing bikeway and walkway systems
- To explain the laws pertaining to the establishment of bikeways and walkways
- To provide information to citizens interested in bicycle and pedestrian transportation
- To fulfill the requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA), whereby each state must adopt a statewide bicycle and pedestrian plan
- To fulfill the requirements of the Oregon Administrative Rule 660-12 (Transportation Planning Rule 12), and
- To provide standards for planning, designing and maintaining bikeways and walkways

The document includes two sections, including the Policy & Action Plan and Bikeway & Walkway Planning, Design, Maintenance & Safety. The first section contains background information, legal mandates and current conditions, goals, actions and implementation strategies ODOT proposes to improve bicycle and pedestrian transportation. The second section will assist ODOT, cities and counties in designing,

constructing and maintaining pedestrian and bicycle facilities. Design standards are recommended and information on safety is provided.

Statewide Transportation Improvement Program 2000-2003, Oregon Department of Transportation, January 1999.

This document, referred to as the STIP, is a program schedule for the Oregon Department of Transportation. The purpose of the STIP is to schedule funding for Oregon's highest priority transportation projects for the next two years. The following projects are listed in the STIP relevant to Beaverton:

- Washington County ATMS (Advanced Traffic Management Systems): Install video cameras.
- US 26/Camelot Interchange (Phases 2&3).
- ORE 217/Denny Road: Signalize both ramp terminal intersections.
- Tualatin Valley Highway/Hocken: Overlay highway and turn lanes—add safety improvements.
- Washington County Commuter Rail Alternatives Study—Preliminary Engineering Phase.
- Cedar Hills Boulevard between Walker Road and Butner Road—Construct sidewalks and bike lanes.
- Hall Boulevard between 12<sup>th</sup> and Allen—Add north and southbound left turn lanes, bike lanes.
- 170<sup>th</sup> between Merlo Road and Elmonica Light Rail Station—Construct 9 foot sidewalks.
- Farmington Road (Hocken/Murray): Preliminary engineering to widen Farmington to 5 lanes, multimodal (including bike lanes and sidewalks), and construct additional turn lanes at Farmington/Murray.
- Hall Boulevard from SPRR to Ridgecrest – Bike lanes and intersection improvements.

Metro Transportation Improvement Program – Priorities 2000, Metro, November 1999.

This document, referred to as the MTIP, is a list of improvement projects for Metro. The purpose of the MTIP Priorities 2000 is to schedule funding for Metro's highest priority transportation projects for the next two years. The following projects are listed in the MTIP relevant to Beaverton:

- Fanno Creek Multi-Use Path Phase 1 (From Allen south to 105<sup>th</sup>): Construct a multi-use path with boardwalks and bridge structures.
- Fanno Creek Multi-Use Path Phase 2 (East to Allen/Scholls Ferry): Project Engineering and ROW acquisition.
- Hall Boulevard Bikeway (12<sup>th</sup>/Allen): Construct bike lanes to complete the regional bike system from Farmington to ORE 217.
- Cornell Road Bikeway (Elam Young Parkway to Ray Circle): Add a 6-foot wide bike lane.
- Farmington Road (Hocken/Murray): Preliminary engineering to widen Farmington to 5 lanes, multimodal (including bike lanes and sidewalks), and construct additional turn lanes at Farmington/Murray.
- Washington County ATMS (Advanced Traffic Management Systems): Install video cameras.
- Sentinel Plaza (Cornell Road/Cedar Hills Blvd/113<sup>th</sup> Ave): Construct a multi-use path and install a Native American totem.
- SW 170<sup>th</sup> Ave (Merlo Rd/Elmonica LRT Station): Replace deteriorating asphalt with a sidewalk to improve access to the LRT Station.

- Washington County Commuter Rail (Wilsonville/BV): Environmental work and design for trackwork improvements, stations, park and ride facilities, signals, switches and crossing protection.

## Wilsonville to Beaverton Commuter Rail, Washington County, August 2000.

The project is a commuter rail line serving eastern Washington County, from Wilsonville to Beaverton, Oregon. The commuter trains would operate on existing tracks, running parallel and west of I-5 and Highway 217, for a distance approximately 15 miles. Users would access the line via five stations, located in Wilsonville, Tualatin, Tigard, and Beaverton. Beaverton and Tigard would share the fifth station, near Washington Square. Beaverton Transit Center's station would connect with Westside MAX Light Rail and buses serving the Portland and Washington County employment centers. This project will require coordination between Metro, Washington County, Tri-Met, The City of Beaverton, The City of Tigard, The City of Tualatin, and the City of Wilsonville. The design for the project is under way and is expected to be completed in June of 2001. Construction of the project is planned to be completed by 2004. On the transit map for the Beaverton TSP, the commuter rail alignment should be updated with stations. Station areas should also be shown on pedestrian maps.

## Tektronix Master Plan (South Tek), Washington County Ordinance No. 530, September 1998.

This project relates to the subdivision and master plan of the existing Tektronix Oregon Campus in Washington County. A list of street improvement projects was developed in the plan (specifically identified in the development agreement between Tektronix and the City of Beaverton dated September 1998) and are as follows:

- Jenkins Road: Widen to 3 lanes with curbs, sidewalks and bike lanes and add a traffic signal (complete by 12/31/00).
- Murray Overpass: Widen to 4 lanes (complete by 12/31/01).
- Millikan Way to become Public Right-of-Way.
- Millikan Way (Murray to Hocken): Widen to 3 lanes with curbs, sidewalks, and bike lanes (schedule to be determined by County).
- Millikan Way extension (Hocken to Cedar Hills): Create a new 3-lane connection to Cedar Hills Blvd (complete by 12/31/03).
- Hocken extension (Hall to Jenkins):
  - a. Interim standards (2 lanes, with ditches, gravel shoulders and turn lanes as necessary) (complete later of 12/31/01 or 12 months after completion of Jenkins widening project).
  - b. Upgrade to urban standards (curbs, sidewalks, landscaping) (completed when adjacent property develops).
  - c. Future widening (if street becomes a major collector or arterial due to Hall Street Extension) (schedule to be determined by County/City of Beaverton).
- Hocken Extension (Millikan to Hall ext.): Upgrade to urban standards (complete when adjacent property redevelops).
- Shannon Road: Re-open road and add sidewalk along west side (completed).
- Terman Road (Hocken Ext. to Shannon):
  - a. Add sidewalks along northwest side and connect to Jenkins Road (complete by 12/31/00).
  - b. Upgrade to urban standards (option to substitute wide sidewalk on one side) (complete when development causes trips to exceed 25% of 1998 levels).
- Terman Road (Shannon to Murray):
  - a. Add sidewalk along north side (complete later of 12/31/00 or completion of Murray widening).

- b. Upgrade to urban standards (complete when development causes trips to exceed 25% of 1998 levels.

The Beaverton Transportation System Plan Update is to be used in developing portions of this project. The Hocken extension classification and capacity will be defined by the TSP. The Terman Road extension classification and number of lanes should also be addressed through the Beaverton TSP, including coordination with Tektronix.

## RTP Projects in the Beaverton Area

Project Name (Facility)	Project Location	Project Description	RTP Program Years
BH Highway/Scholls Redesign	BH Highway/Scholls/Oleson intersection	Redesign intersection to improve safety	2006-10
Oleson Road Improvements	Fanno Creek to Hall Boulevard	Improve to urban standard with bike lanes, sidewalks, lighting, crossings, bus shelters & benches; signal at 80th	2006-10
Scholls Ferry Bikeway	Multnomah County line to BH Highway	Retrofit street to add bike lanes	2011-20
Washington County ATMS	Washington County	Acquire hardware for new traffic operations center and conduct needs analysis	2000-05
Beaverton Connectivity Improvements I	(1) Henry Street: Millikan to Center, (2) Dawson/Westgate: Karl Braun to Hall, (3) Rose Biggi: Canyon to Westgate, (4) Tuala Way to Millikan	Complete central Beaverton street connections	2000-05
Beaverton Connectivity Improvements II	(5) Electric to Whitney to Carousel to 144th, (6) new conn.: Henry & 114, (7) new conn.: Hall and Cedar Hill (8) Griffith to 114th	Complete central Beaverton street connections	2006-10
Jenkins Road Improvement	Murray Boulevard to 158th Avenue	Widen to five lanes	2006-10
Highway 217 Interchange Improvements	NB/SB at Walker Road, SB at TV Highway, NB/SB at BH Highway and at Allen Boulevard	Improve Highway 217 interchanges	2000-05
TV Highway Improvements	Cedar Hills Boulevard to 10th Avenue	Widen to seven lanes Cedar Hills to Murray; six lanes limited access from Murray to Brookwood and five lanes from Brookwood to 10th	2011-20
Millikan Extension	Hocken to Cedar Hills	Three lane extension to connect with Cedar Hills at Henry Street	2000-05
Davis Improvements	160th Avenue to 170th Avenue	Three lane improvement to add bike and pedestrian facilities	2000-05
Hart Improvements	Murray to 165th	Three lane improvement with sidewalks, bikeways and signal at 155th Avenue	2000-05
Lombard Improvements	Broadway to Farmington	Three lane improvement to realign road with segment to the north with pedestrian facilities	2000-05
Farmington Road Improvements	Hocken Avenue to Murray Boulevard	Widen to five lanes; improve intersections at Murray Boulevard and Hocken Avenue	2000-05
Allen Boulevard Improvements	Highway 217 to Murray Boulevard	Widen to five lanes	2011-20
Cedar Hills Boulevard Improvements	Farmington Road to Walker Road	Widen to five lanes with sidewalks and bike lanes	2006-10
125th Avenue Extension	Brockman Street to Hall Boulevard	Construct two-lane extension with turn lanes from Brockman Street to Hall Boulevard	2000-05
Hall Boulevard Extension	Cedar Hills Boulevard to Terman/Hocken	Construct three-lane extension with bikeways and sidewalks	2000-05
158th/Merlo Road Improvements	170th Avenue to Walker Road	Widen to five lanes with sidewalks and bike lanes	2011-20
Nimbus Road Extension	Hall Boulevard to Denney Road	Extend two-lane roadway	
Center Street Improvements	Hall Boulevard to 113th Avenue	Widen to three lanes with bikeways and sidewalks (only bike lanes and sidewalks in financially constrained system)	2011-20
Hall/Watson Improvements	Allen Boulevard to Cedar Hills Boulevard	Complete boulevard design improvements	2000-05
TV Highway Pedestrian Access to Transit Improvements	Murray to Highway 217	Improve sidewalks, lighting, crossings, bus shelters and benches	2006-10
Walker Road Improvements	Cedar Hills Boulevard to Murray Boulevard	Widen to seven lanes with sidewalks and bike lanes	
Farmington Road Bikeway	Hocken to Highway 217	Retrofit to include bike lanes	2006-10
Hall Boulevard Bikeway	BH Highway to Cedar Hills Boulevard	Retrofit to include bike lanes	2000-05
Watson Avenue Bikeway	BH Highway to Hall Boulevard	Retrofit to include bike lanes	2000-05
Downtown Beaverton Pedestrian Improvements	Hocken Avenue/TV Highway/113th Avenue/110th Avenue/Cabot Street	Improve sidewalks, bike lanes, lighting, crossings, bus shelters and benches	2000-05
Walker Road Pedestrian Improvements	Polsky/108th to Highway 217	Improve sidewalks, lighting, crossings, bus shelters and benches	
Hall Boulevard/Watson Pedestrian-to-Transit Improvements	Cedar Hills Boulevard to Tigard TC	Improve sidewalks, lighting, crossings, bus shelters and benches	2006-10
110th Avenue Pedestrian Improvements	B-H Highway to Canyon Road	Fill in missing sidewalks	2000-05
117th Avenue Pedestrian Improvements	light rail transit to Center Street	Improve sidewalks, lighting, crossings	2000-05
Murray Boulevard Bike/Pedestrian Improvements	Scholls Ferry Road to TV Highway	Safety islands and pedestrian crossing improvements at intersections, fill in bicycle network gaps	2011-20
Beaverton-Hillsdale Highway Pedestrian and Bicycle Improvements	65th Avenue to Highway 217	Improve sidewalks, lighting, crossings, bus shelters and benches; stripe bike lanes	2011-20
Canyon Road/TV Highway Bike and Pedestrian Improvements	SW 91st Avenue to Highway 217	Bike lanes, sidewalks and pedestrian crossings	2011-20
Denney Road Bike/Pedestrian Improvements	Nimbus Avenue to Scholls Ferry Road	Improve sidewalks, crossings and fill in bicycle network gaps	
Beaverton Regional Center TMA	Beaverton Regional Center	Implements a transportation management association with area employers	2000-05

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TV Highway Access Management	117th Avenue to Hillsboro	Access management	2006-10
TV Highway System Management	TV Highway from Highway 217 to 209th Avenue to Highway 217	Interconnect signals on TV Highway from 209th Avenue to Highway 217	2006-10
Murray Boulevard Improvements	TV Highway to Allen Boulevard	Signal coordination	2000-05
Garden Home/92nd Avenue Improvements	Allen Boulevard to Oleson Road	Widen to three lanes with bikeways and sidewalks	
Scholls Ferry Road Improvements	Hamilton to Garden Home Road	Widen to three lanes with bikeways and sidewalks	2011-20
Fanno Creek Greenway Multi-Use Path	Allen Boulevard to Denney Road east of Highway 217 and from Highway 217 to Allen Boulevard near Scholls Ferry Road	Completes Fanno Creek Greenway multi-use path	2000-05
Beaverton Powerline Multi-use Trail	Farmington Road to Scholls Ferry Road	Construct multi-use trail within powerline easement	2000-05
Barnes Road Bikeway	Burnside to Leahy Road	Retrofit to include bike lanes	
Hall Boulevard Bikeway	12th Street to south of Allen Boulevard	Retrofit to include bike lanes; intersection turn lanes at Allen Boulevard	2000-05
Cedar Hills Boulevard Improvements	Butner Road to Walker Road	Improve sidewalks, lighting, crossings, bike lanes, bus shelters and benches	2000-05
Allen Boulevard Improvements	Highway 217 to Western Avenue	Widen to five lanes with bike lanes and sidewalks	2011-20
Western Avenue Pedestrian Improvements	5th Street to 800 feet south of 5th Street	Improve sidewalks, lighting, crossings, bus shelters and benches	
Canyon Road Bicycle and Pedestrian Improvements	US 26 to 110th Avenue	Retrofit to include bike lanes/sidewalks	2006-10
Allen Boulevard Bike/Ped Improvements	Western Avenue to Scholls Ferry Road	Retrofit to include bike lanes and fill in missing sidewalks	2006-10
Western Avenue Bike Lanes	B-H Highway to Allen Boulevard	Retrofit to include bike lanes	
170th Improvement	Blanton Street to Farmington Road	Widen to five lanes with sidewalks and bike lanes	
170th Improvement	Alexander Road to Merlo Road	Widen to five lanes with sidewalks and bike lanes	2011-20
170th Improvement	Rigert to Alexander	Three lanes from Rigert to Blanton; five lanes from Blanton to Alexander	2000-05
158th Avenue Improvements	Walker to Jenkins Road	Widen to include bike lanes	2011-20
Millikan Way Improvements	TV Highway to 141st Avenue	Widen to five lanes with sidewalks and bike lanes	2011-20
Millikan Way Improvements	141st Avenue to Hocken Road	Widen to three lanes with sidewalks and bike lanes	2011-20
160th Avenue Improvements	Tualatin Valley Highway to Farmington Road	Widen to five lanes with sidewalks and bike lanes	
Walker Road Improvements	173rd to Stucki Boulevard	Widen to include bike lanes	
Murray Boulevard Bikeway	Farmington Road to S of TV Highway	Retrofit to include bike lanes	2011-20
170th Avenue Pedestrian Improvements	Merlo Drive to Elmonica light rail station	Fill in sidewalk gaps and extend to light rail eastside only	2000-05
Pedestrian Access to MAX	Westside LRT station areas	Provide pedestrian connections to light rail stations	2000-05
Walker Road Bike/Ped Improvements	Canyon Road to Cedar Hills Boulevard	Retrofit to include bike lanes and sidewalks	2011-20
Baseline Road Improvements	Murray Boulevard to Brookwood Road	Widen to five lanes with bike lanes and sidewalks	
TV Highway Pedestrian Improvements	10th to Cornelius Pass Road	Improve sidewalks, lighting, crossings, bus shelters and benches	
Murray LRT Overcrossing and Pedestrian Improvements	Terman Road to Millikan Way	Expand LRT bridge from 2 to 4 lanes and improve sidewalks, lighting crossings, bus shelters, benches and landscaped buffers on bridge approach	2000-05
170th/173rd Improvements	Baseline to Walker	Improve to 3 lanes	2006-10
Johnson Street Extension	170th Avenue to 209th Avenue	Three lane extension (two lanes west bound and one lane eastbound with turn lanes), including bike lanes and sidewalks	2000-05
Walker Road Improvements	Cedar Hills to 158th Avenue	Widen to five lanes including sidewalks and bike lanes (three lanes in the financially constrained system)	2006-10
Walker Road Improvements	158th Avenue to Amberglen Parkway	Widen to five lanes including sidewalks and bike lanes (three lanes in the financially constrained system)	2006-10
Walker Road Improvements	Highway 217 to Cedar Hills Boulevard	Widen to five lanes including sidewalks and bike lanes	
Walker Road Improvements	Highway 217 to Cedar Hills Boulevard	Widen to three lanes including sidewalks and bike lanes (only Lynnfield to Cedar Hills in financially constrained)	2006-10
US 26 Undercrossing - Sunset TC	Barnes to Butner west of Highway 217	Construct new underpass to better connect areas north and south of US 26	
Barnes Road Improvements	Miller Road to 84th Avenue	Widen to three lanes with bike lanes and sidewalks	
Barnes Road Improvements	Highway 217 to 119th Avenue	Widen to five lanes with bike lanes and sidewalks	2006-10
90th/98th Avenue Extension	Leahy Road to Barnes Road	Construct new two-lane road connection with bike and pedestrian facilities	2011-20
Cedar Hills Boulevard/Barnes Road Intersection Improvement	Cedar Hills at Barnes Road	Add through and turn lanes, new traffic signal and signal at US 26 EB off-ramp	2000-05
119th Avenue Extension	Barnes Road to Cornell Road	Construct new 3/5 lane extension with sidewalks and bike lanes	2006-10
Cornell Road Improvements - West Cedar Mill	US 26 to 143rd Avenue	Widen to five lanes with bike lanes and sidewalks	2011-20
Cornell Road Improvements - West Cedar Mill	143rd Avenue to Dale Road	Widen to five lanes with boulevard design treatment	
Cornell Road Improvements	143rd Avenue to Saltzman	Widen to three lanes with bikeways and sidewalks	2000-05
Cornell Road Improvements - East Cedar Mill	Saltzman to Miller Road	Widen to three lanes and improve crossings, bus shelters	2011-20
Barnes Road Improvement	Saltzman Road to 119th Avenue	Widen to five lanes with intersection improvement	2000-05

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		at Saltzman	
Murray Boulevard Improvements - Cedar Mill	Science Park Drive to Cornell	Widen Murray Boulevard to five lanes	2000-05
Saltzman Road Improvements	Cornell Road to Burton Street	Widen to three lanes with sidewalks and bike lanes	2011-20
143rd Avenue Improvements	Cornell Road to West Union Road	Widen to three lanes with sidewalks and bike lanes	2006-10
Cornell Intersection Improvements	Intersections at Saltzman, Barnes, Murray and Trail	Improve intersections to relieve congestion and improve safety	2011-20
Cedar Mill Town Center Local Connectivity, Phase 1	Various locations in the town center	Construct additional local road connections to improve traffic circulations	2000-05
Cornell Road Boulevard Treatment	Trail Avenue to Saltzman	Add bike lanes, sidewalks, median, landscaping	2000-05
Cedar Mill Multi-Use Path	North of Cornell Road from 113th Avenue to 119th Avenue	Construct multi-use path along north side of Cornell Road	2000-05
Saltzman Pedestrian Improvements	Marshall Road to Dogwood Road	Construct sidewalks on west side of road	2000-05
Cornell Road Improvements - East Tanasbourne	179th Avenue to Bethany Boulevard	Widen to five lanes with sidewalks and bike lanes	2006-10
173rd/174th Undercrossing	Cornell Road to Bronson Road	Construct new two lane undercrossing with sidewalks and bike lanes	2011-20
185th Avenue Improvements	Improve 185th Avenue and Cornell Road with "boulevard" design treatment, including improved sidewalks and bus stops, curb extensions, street trees, lighting, etc., within the town center.	Complete boulevard design improvements	
Farmington TC Pedestrian Improvements	Farmington Road, Kinnaman, 170th and intersecting streets	Improve sidewalks, lighting, crossings, bus shelters and benches	2011-20
Washington Square Connectivity Improvements	Washington Square Regional Center	Increase local street connections based on recommendations in regional center plan	2011-20
Highway 217 Interchange Imp. - Denney Road	Denney Road at the Highway 217 on and off-ramps	Improve Denney Road at the Highway 217 on and off-ramps, including lights and covered culverts	2011-20
Highway 217 Overcrossing - Cascade Plaza	Nimbus to Locust	Provide a new connection from Nimbus to Washington Square south of Scholls Ferry Road	
Western Avenue Improvements	Allen Boulevard to Walker Road	To improve north/south traffic flow and connectivity east of Highway 217, implement TSM improvements between Allen Boulevard and Canyon Road and extend Western Avenue north to Canyon Road near Walker Road.	2011-20
Taylor's Ferry Road Extension	Washington Drive to Oleson Road	Three lane extension with bikeway and sidewalks	2011-20
Scholls Ferry/Allen Intersection Improvement	Scholls Ferry Road/Allen Boulevard intersection	Realign intersection	2006-10
Oak Street Improvements	Hall Boulevard to 80th Avenue	Signal improvement, bikeway and sidewalks	2000-05
Scholls Ferry Road Improvements	Highway 217 to 125th Avenue	Widen to seven lanes with access management	
Scholls Ferry Pedestrian Improvements	Beaverton-Hillsdale Highway to Hall Boulevard	Improve sidewalks, lighting, crossings, bus shelters and benches	2011-20
Scholls Ferry Road TSM Improvements	Highway 217 to 125th Avenue	Implement appropriate TSM strategies such as signal interconnects, signal re-timing and channelization to improve traffic flows	2000-05
Washington Square Regional Center TMA Startup Program	Washington Square Regional Center	Implements a transportation management association program with employers	2000-05
Scholls Ferry Road Intersection Improvement	At Hall Boulevard	Add SB right turn lane from SB Hall Boulevard	
Murray/Scholls Connectivity Improvements	Teal collector extension to loop road and Barrows Road, transit collectors from Murray Boulevard to loop road; new neighborhood route connections	Teal collector extension to loop road and Barrows Road, transit collectors from Murray Boulevard to loop road; new neighborhood route connections	2011-20
Barrows Road Improvements	Murray Boulevard to 175th Avenue	Widen to add bike lanes	
Murray Boulevard Extension	Scholls Ferry Road to Barrows Road at Walnut Street	Four lane extension with bikeways and sidewalks	2000-05
Davies Road Connection	Scholls Ferry Road to Barrows Road	Three lane connection with bikeways and sidewalks	2006-10

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